



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,272	10/21/2003	Jang Sik Cheon	SUN0031US	4945
23413 7590 04/14/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER BODDIE, WILLIAM				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
04/14/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/691,272

Applicant(s)

CHEON ET AL.

Examiner

WILLIAM L. BODDIE

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12, 17-23 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 18-22 is/are allowed.
- 6) ☒ Claim(s) 9-12, 17, 23 and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/888)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. In an amendment dated, December 29th, 2008, the Applicant amended claims 9, 18-19, 23 and added new claim 30. Currently claims 9-12, and 17-23 and 26-30 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 29th, 2008 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 9-12 and 17 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's remaining arguments filed December 29th, 2008 have been fully considered but they are either moot in view of the newly cited art or not persuasive.

On pages 7-15 of the Remarks, the Applicants argue that specific limitations are not taught or suggested by the cited prior art. These arguments are all based on limitations that have been newly added to the claims.

Additionally on page 16, the Applicants argue that new claim 30 is not disclosed by the cited prior art. As these arguments are all directed to newly added claim limitations that would require further search they are moot.

As to the arguments concerning claim 23, Applicants argue that Brogardh does not teach a light guide disposed on a sidewall of the case. The Examiner must respectfully disagree. As shown in figure 4b of Brogardh, the light guide (mapped to element 36 in the office action) is indeed, disposed on a sidewall of the case (mapped to 33).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perret, Jr. et al. (US 5,736,686) in view of Anderson (US 4,470,045).

With respect to claim 9, Perret, Jr. discloses, an optical cursor control device (graphic digitizing tablet) having a light concentrating pad (fig. 1) and an optical pointing device moved on the light concentrating pad by an operator (col. 1, lines 14-19), the light concentrating pad comprising:

an optical wave guide (14 in fig. 1);

a lower reflecting plate (15 in fig. 1; col. 3, line 63) attached to a bottom of the optical wave guide for upwardly reflecting light introduced into the optical wave guide;
and

an upper transparent plate (49, 56 in fig. 1) attached to a top of the optical wave guide for passing the light reflected from the lower reflecting plate;

side reflecting plates (52 in fig. 1) attached to a portion of sides of the optical wave guide for reflecting the light in the optical wave guide (col. 5, lines 12-14 discloses that the edge is coated with aluminized mylar thus creating a light concentrating plate (note the rays around 48 in fig. 1)); and

a light concentrating plate (47 in fig. 1), wherein the light concentrating plate reflects external light (58, 40 in fig. 1) into the optical wave guide through another portion of the sides of the optical wave guide (col. 14, lines 24-30; clear from fig. 1).

Perret, Jr. does not expressly disclose that the light concentrating plate is attached to an edge of the lower reflecting plate and separated from the upper transparent plate.

Anderson discloses, a backlight lighting apparatus (fig. 4) comprising:
an upper transparent plate (40 in fig. 4) having an extension portion protruding from an edge of the lower reflecting plate (42 in fig. 4), an opening in the extension portion for exposing the optical waveguide (42 in fig. 4);

a light concentrating plate (54 in fig. 4) attached to an edge of a lower reflecting plate (48 in fig. 4), wherein the light concentrating plate is disposed on another portion of the sides of the optical waveguide (fig. 4) and under an opening of the upper transparent plate (40 in fig. 4), extending diagonally and upwardly from the lower reflecting plate to the upper transparent plate (fig. 4), contacting the lower reflecting plate and the upper transparent plate (fig. 4), contacting external light passing through the opening of the upper transparent plate, reflecting external light (18 in fig. 4) into an optical wave guide (52 in fig. 4),

wherein the optical waveguide (52 in fig. 4) is a space disposed between the lower reflecting plate (48 in fig. 4), the light concentrating plate (54 in fig. 4), the side reflecting plates (opposite 54 in fig. 4) and the upper transparent plate (40 in fig. 4), and

wherein a portion of the external light is reflected from the lower reflecting plate and passes through the upper transparent plate (fig. 4) at substantially a same time (light will inherently move at a speed of light which is deemed to satisfy the time limitations claimed.).

Anderson and Perret, Jr. are analogous art because they are both from the same field of endeavor namely backlighting systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to attach the light concentrating plate of Perret, Jr. to an edge of the lower reflecting plate and separate from the upper transparent plate as taught by Anderson.

The motivation for doing so would have been the well-known benefits of uniform brightness, preventing light leakage, and decreasing power consumption by a significant amount.

With respect to claim 10, Anderson and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Perret, Jr. further discloses, wherein the upper transparent plate includes regular patterns drawn on a surface thereof (col. 4, lines 42-46).

With respect to claim 17, Anderson and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Perret, Jr. further discloses, a light source (16 in fig. 1) emitting a light toward the light concentrating plate, wherein the light concentrating plate reflects the light from the light source into the optical wave guide (clear from fig. 1).

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perret, Jr. et al. (US 5,736,686) in view of Anderson (US 4,470,045) and further in view of Lyon (US 4,521,772).

With respect to claim 11, Anderson and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Neither Anderson nor Perret, Jr. expressly disclose further detail regarding the optical pointing device.

Lyon discloses, an optical pointing device comprises;

a case (108 in fig. 22) including a lower panel, the lower panel having an opening (clear from fig. 22);

an optical sensor (120 in fig. 22) mounted inside the case for sensing reflected light introduced into the case through the opening (fig. 22); and

a printed circuit board (110 and 112 in fig. 22) for processing a signal outputted from the optical sensor to generate an output signal that corresponds to a position of the case.

Lyon, Anderson and Perret, Jr. are analogous art because they are all from the same field of endeavor namely, backlight control systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to construct the optical pointing device of Anderson and Perret, Jr. as taught by Lyon.

The motivation for doing so would have been due to its high reliability over long periods of time (Lyon; col. 2, lines 20-24).

With respect to claim 12, Lyon, Anderson and Perret, Jr. disclose, the optical cursor control device according to claim 11 (see above).

Lyon further discloses, wherein the optical pointing device further comprises:
a switch module disposed on the printed circuit board (114, 115 in fig. 22); and
a button disposed at the top surface of the case to turn on or off the switch module (116 in fig. 22).

7. Claims 23 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brogårdh et al. (US 4,475,240) in view of Mumford (US 6,377,249).

With respect to claim 23, Brogårdh discloses, an optical cursor control device (fig. 9) having a worktable (3 in fig. 9) and an optical pointing device (fig. 9) moved on the worktable by an operator, the optical pointing device comprising:

- a case (33 in fig. 4a; for example);
- an optical sensor disposed in the case (129 in fig. 9; for example);
- a light guide (36, 121 in fig. 9) on a sidewall of the case (sidewall, 33 in fig. 4b), that comprises a first surface (bottom of 36 in fig. 9) accepting light reflecting from a surface of the worktable (3 in fig. 9) adjacent to the case, and a second surface (top of 121 in fig. 9) of the light guide being adjacent to the case (clear from fig. 4b) and

introducing the light penetrating the light guide onto an optical sensor in the case (129 in fig. 9); and

a printed circuit board (140 in fig. 9; col. 7, lines 16-23) with electronic parts (141-144 in fig. 9; and fig. 10) processing an output signal of the optical sensor to generate an output signal that corresponds to a position of the case (col. 7, lines 24-66).

Brogårdh does not expressly disclose that the first surface is spaced away from the case or that the light guide includes differently functioning optical material.

Mumford discloses an optical cursor control device having a light guide including a first surface spaced away from the case (7 in fig. 20) and a second surface of the light guide. Mumford further discloses wherein the first and second surfaces include one optically functioning material (collimating lenses 101 and on each sensor in fig. 10), and a remaining portion of the light guide including optically different functioning material from the first and second surfaces (the fiber optics, 104 and 109 in figs. 10 and 20, is clearly different functioning than the lenses disclosed).

Mumford and Brogårdh are analogous art because they are both from the same field of endeavor namely fiber optic light guide pens.

At the time of the invention it would have been obvious to one of ordinary skill in the art to arrange the light guide of Brogårdh and include the lenses of Mumford for the well-known benefit of increased light introduction and field of view.

With respect to claim 26, Brogårdh and Mumford disclose, the optical cursor control device according to claim 23 (see above).

Brogårdh does not expressly disclose including light concentrators.

Mumford discloses, wherein the light guide further comprises light concentrators disposed at the first (101 in fig. 10) and second surfaces (note the convex lens located on the detectors 106 in fig. 10), and the light concentrators increase the intensities of the lights passing through the light concentrators (col. 12, lines 20-22).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the light concentrators of Mumford on the light guide of Brogårdh for the benefit of increased light intensity (Mumford; col. 12, lines 20-22).

With respect to claim 27, Brogårdh and Mumford disclose, the optical cursor control device according to claim 26 (see above).

Brogårdh, when combined with Mumford, further discloses wherein the light concentrators are convex lenses (Mumford; clear from fig. 10).

With respect to claim 28, Brogårdh and Mumford disclose, the optical cursor control device according to claim 23 (see above).

Brogårdh does not expressly disclose a button.

Mumford discloses, a switch module (236 in fig. 24) mounted on the printed circuit board; and a button (116 in fig. 20) disposed on a top of the case to turn on or off the switch module.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the button and switch module of Mumford on the circuit board of Brogårdh for the well-known benefit of increased user functionality.

With respect to claim 29, Brogårdh and Mumford disclose, the optical cursor control device according to claim 23 (see above).

Brogårdh further discloses wherein the first and second surfaces are parallel to each other (clear from fig. 9).

With respect to claim 30, Brogårdh and Mumford disclose, the optical cursor control device according to claim 23 (see above).

Brogårdh further discloses, wherein the light guide is disposed directly on and contacting the sidewall of the case (fig. 4b).

Allowable Subject Matter

8. Claims 18-22 are allowed.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/W. L. B./
Examiner, Art Unit 2629
4/10/2009